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60/362,819 8 March 2002 (08.03.2002) US(71) Applicant (for all designated States except US): **SENTINEL PRODUCTS CORP.** [US/US]; 70 Airport Road, Hyannis, MA 02601 (US).

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- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations
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(54) Title: POLYPROPYLENE FOAM AND FOAM CORE STRUCTURE

(57) Abstract: One or more external surfaces of an extruded foam are coated by co-extruding a skin of polymer on the surface to reduce the diffusion the foaming gases out of the cells of the solidifying polymer foam. The sealing effect can involve coating one side of the extruded foam (AB foam) or both sides (ABA form). The skins can be solid or foamed. Alternatively, a cylinder is formed from an annular die and, preferably, a cylindrical cooling mandrel. By extruding and drawing the cylinder of foam onto a cooled cylindrical mandrel, which expands the diameter of the cylinder, the optimum physical properties of the structure can be achieved. This is because the foam structure is stretched in longitudinal and lateral directions. Preferable, the foaming polymer has "inherent melt strength" and "strain hardening" so that the foam cells are more consistent in size and shape. The preferred polymers are polypropylene or polystyrene.



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